

Work Order ID 142108

February 25, 2016 4:15:19 PM

142108

Page 1

Item ID: D205-596-105

Revision ID: ~~URF 14-644~~

Item Name: Fwd Crosstube - Extended Height 31"

Start Date: 3/4/2016 Start Qty: 1.00 ***1***

Required Date: 3/18/2016 Req'd Qty: 1.00 ***1***

Reference:

Approvals: Process Plan: SV Date: 20160226 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D205-596-105	Rev B(DEO) U/R	OK QP 16/3/31	DAS 6						
100	Document Control	0.00	9-89						
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy D205-594 bluefile & type labels per PPP D205-596-105 CHG003								
105	Crosstubes Chemical Conversion	0.00							
105									
HandFXtube	Memo	0.00							
Hand Finishing Crosstubes	INSIDE AND OUT								
107	QC7-Inspect Chemical Conversion Coat	0.00							
107									
QC	Memo	0.00							
Quality Control									

DAS
28
9-89
APR 11 2016

BC 16/03/29

1 QB
16-02-29

D205-596-105/142108

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Work Order ID 142108

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Item ID: D205-596-105

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 14-644

Item Name: Fwd Crosstube - Extended Height 31"

Stop ***NS2***

Start Date: 3/4/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.01

110

BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.01

CNC Alpha 160 Bender

Bend as per Dwg D2889 using CNC bender program

BC 16/03/29

130

QC15- Crosstube Dimensional Check

0.00

130

QC

Memo

0.00

Quality Control

1 DAS 38 9-89 16-03-01

140

0.00

140

Crosstubes

Crosstubes

Memo

0.01

Crosstubes

1-Cut as per Dwg D205-596-105

BC 16/03/02

2-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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142108

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 3/4/2016 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

0.00

150

0.00

HandFXtube

Memo

Hand Finishing Crosstubes

IMMEDIATELY AFTER GRINDING

1- PRESSURE WASH X-TUBE INSIDE AND OUT

2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT AS PER QSI005.

155

QC7-Inspect Chemical Conversion Coat

0.00

155

0.00

OC

Memo

Quality Control

DAS
38
9-89

MAR 03 2016

160

QC5- Inspect part completeness to step on W/O

0.00

160

0.00

QC

Memo

Quality Control

DAS
49
9-89

16/03/05

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :			MRB (QS1042) Approval	
Description Work Order Deviation		Disposition				
					Completed By	
					Lead hand / Supervisor Approval Verification	
					QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐						

Work Order ID 142108

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Item ID: D205-596-105

Accept

N900040100

Setup Start ***NS1***

Revision ID: URF 14-644

Item Name: Fwd Crosstube - Extended Height 31"

Stop ***NS2***

Start Date: 3/4/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Crosstubes	0.00							DAS 41 9-89
190						1			16-3-30
Crosstubes		0.01							
Crosstubes	☆ over Memo 1- Lightly scuff the bonded area using a 180 grit sand paper and clean the area with 41058 wash 'n' wipe 2- Apply Proseal as per dwg D205-596-105 (DEO). A/R Proseal 890 B-2 Batch: <u>134039</u> EXP: <u>9/16</u> 3- Torque clamps 80 to 100 in-lb as per dwg and Note 11 (DEO B-2)								
200	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
200						1			APR 04 2016
QC		0.00							
Quality Control	Memo ***PRIOR TO PACKAGING RECHECK TORQUE ON CLAMPS AFTER PROSEAL HAS CURED 72HOURS.***								

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>142108</u> Part No. <u>D205-596-105</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐							
Date: <u>16/3/31</u>		Step #: <u>190</u>		QTY Effective: _____			MRB (QSI042) Approval DAS 12 9-89 16/3/31				
Description Work Order Deviation				Disposition				Completed By DAS 12 9-89 16/3/31 Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval			
Install MS21920 clamps so mechanism is on top				Acceptable minor deviation to prevent premature wear of rubber cushion							
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER: _____							
Misidentified	☐	Past Due	☐								

Work Order ID 142108

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Item ID: D205-596-105

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 14-644

Item Name: Fwd Crosstube - Extended Height 31"

Stop ***NS2***

Start Date: 3/4/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Packaging	0.00							
210									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D205-596-105								
	Location: _____								
	PPP Rev: _____								
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

DAS
28
9-89DAS
27
9-89

APR 12 2016

16/4/12

20160412

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 142108

142108

Parent Item: D205-596-105

D205-596-105

Parent Item Name: Fwd Crosstube - Extended Height 31"

Start Date: 3/4/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

D3595-063-450

Manufactured No

190

Each

52.0000

4

4

D3595-063-450

DAS

41

389

16-3-29

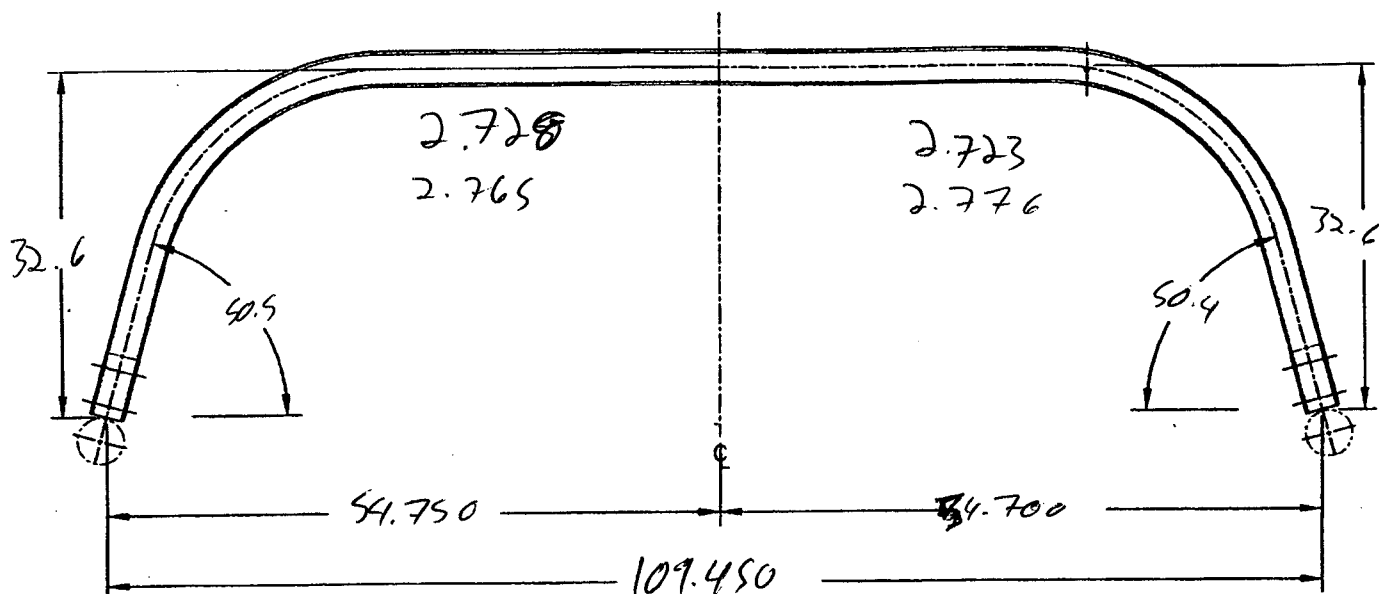
Rubber Cushion 0.63" wide x 4.50" Long

142858			
<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
FG	22		
129907	10		
131013	6		
88422	6		
LG052	30		
140163	30		

4

DART AEROSPACE LTD		Work Order:	
Description: Crosstube High-High Fwd		Part Number:	D205-596-105
Inspection Dwg: D205-596-105 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	32.4	32.6
1/2 Span	54.6	54.8
Angle	49	52
Total Span	109.2	109.6
Bending Passes	3	--
Crushing	--	6%



	Side A	Side B
Bending Passes	17	18
Crushing	0.6%	0.9%
Comments		

DAS

38

QC15 Inspection	9-89
Date	10-03-01

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	
C	12.04.16	Added bending, crushing dimensions	KJ	up

PARTS LIST:

Qty	Part Number	Description
X	D205-596-105	CROSSTUBE ASSEMBLY, HI-HI FWD
1	D6005-180	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6005-180
FINISHED LENGTH = 134.40 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH
VIBRATING STYLUS
- 7) WEIGHT: 40 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE D2893-1
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE
CROSSTUBE SUPPORT.
NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-25 CLAMPS WITH LONGER (MS21920-26) OR
SHORTER (MS21920-24) CLAMPS TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A
MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

UNDER REVIEW

URF14-644 CP

20160226

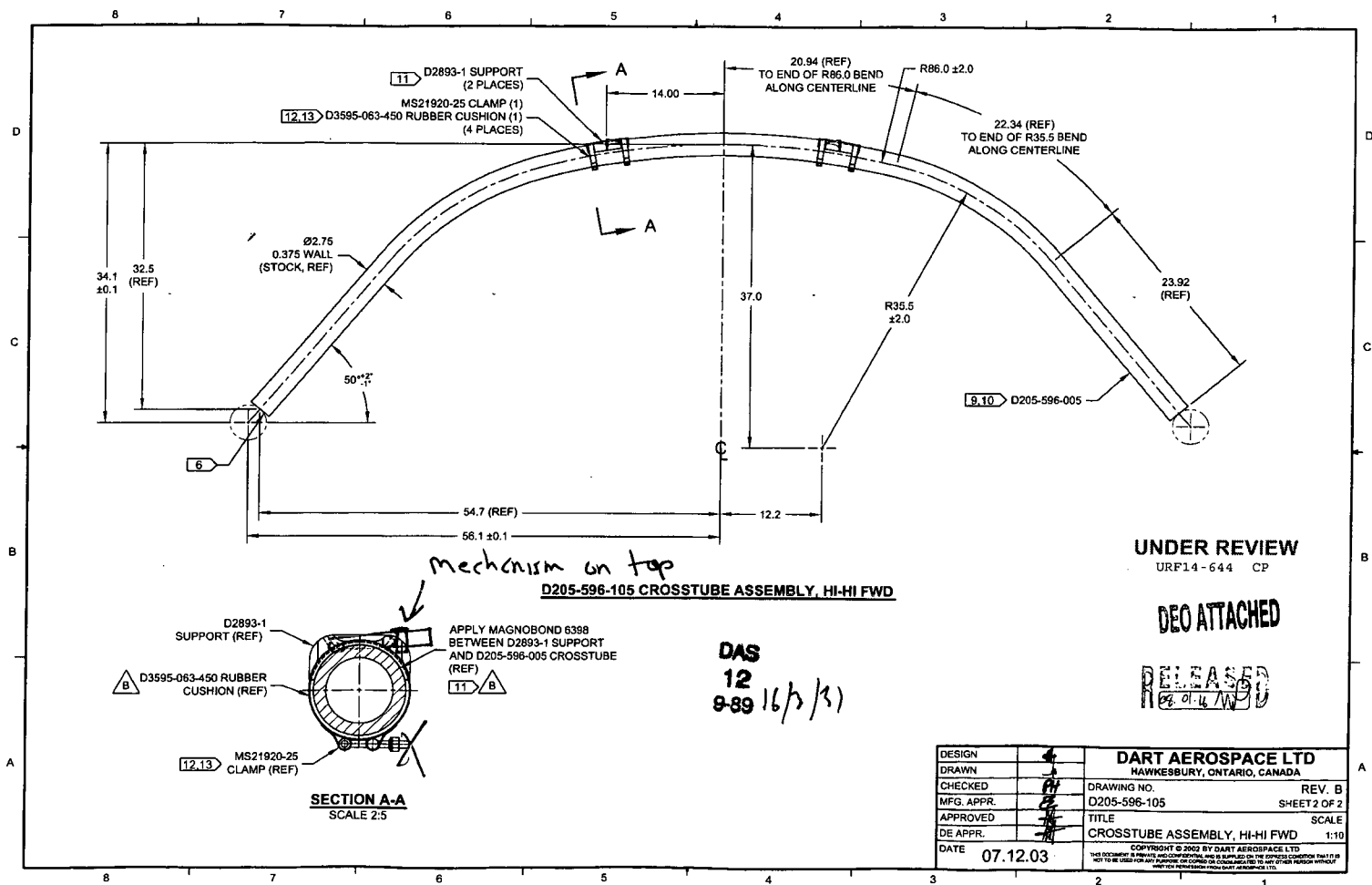
SA

142108

DEO ATTACHED

RELEASED
08-01-14

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-851 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-450 CUSHION; MS21920-25 WAS MS21920-24	MB	07.12.03
A	NEW ISSUE	DS	02.11.20
REV.	DESCRIPTION	BY	DATE
DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	4		
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	PH	D205-596-105	SHEET 1 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASSEMBLY, HI-HI FWD	NTS
DATE	07.12.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



UNDER REVIEW
URF14-644 CP

DEO ATTACHED

RELEASED
07.12.03

DESIGN		DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. REV. B
MFG. APPR.		D205-596-105 SHEET 2 OF 2
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE ASSEMBLY, HI-HI FWD 1:10
DATE	07.12.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD

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DRAWING NO. D205-596-105	TITLE CROSSTUBE ASS'Y, HI-HI FWD	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D205-596-105-B-2	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>JP</i>	CHECKED <i>A.P.</i>	MFG. APPR. <i>JP</i>	APPROVED <i>JP</i>		DE APPR. <i>JP</i>		
DATE 13.11.11	DATE 13.11.11	DATE 13.11.11	DATE 13/11/21		DATE 13/11/21		

PURPOSE:
REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Qty	Part Number	Description
A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
-----	----------------	---

NOTE 11 & 13, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 11) TO INSTALL D2893-1 SUPPORT: ABRABE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

WAS:

- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB.

RELEASED
2013-11-26

UNDER REVIEW

URF14-644 CP

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DRAWING NO. D205-596-105	TITLE CROSSTUBE	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D205-596-105-B-3	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN 92	CHECKED A.P.	MFG. APPR. JA	APPROVED AB		DE APPR. H		
DATE 15.01.15	DATE 15.01.20	DATE 15.01.20	DATE 15.01.20		DATE 15.01.20		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Qty	Part Number	Description
X	D205-596-105B	CROSSTUBE ASSEMBLY (214 HI-HI FWD)

THE D205-596-105B CROSSTUBE HAS THE SAME PARTS LIST AS THE D205-596-105 CROSSTUBE EXCEPT AS FOLLOWS:

IS:

2	D5017-1-	SUPPORT
---	----------	---------

WAS:

2	D2893-1	SUPPORT
---	---------	---------

INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D205-596-105 CROSSTUBE.

RELEASED

2015 JAN 26

ECN 15-514 92

UNDER REVIEW

URF14-644 CP

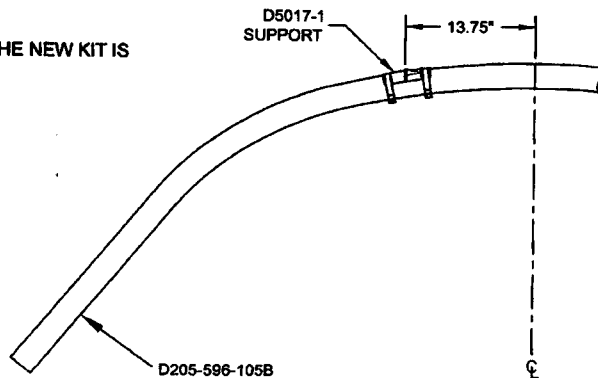


FIGURE 1 - SUPPORT INSTALLATION

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Work Order ID 142108

February 25, 2016 4:15:19 PM

142108

Page 1

Item ID: D205-596-105

Revision ID: URF 14-644

Accept

N900040100

Setup Start

NS1

Item Name: Fwd Crosstube - Extended Height 31"

Stop

NS2

Start Date: 3/4/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

SVL

Date:

20160228

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D205-596-105	Rev B(DEO) U/R	OK 9/16/3/31							
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy D205-594 bluefile & type labels per PPP D205-596-105 CHG003								
105	Crosstubes Chemical Conversion	0.00							
105									
HandFXtube	Memo	0.00							
Hand Finishing Crosstubes	INSIDE AND OUT								
107	QC7-Inspect Chemical Conversion Coat	0.00							
107									
QC	Memo	0.00							
Quality Control									

MLJ

APR 04 2016

BL

16/03/15

1

JB

16-02-29